DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: LIME POND	Lake Area (ha):	4.65
Town: COLUMBIA	Maximum depth (m):	4.3
County: Coos	Mean depth (m):	1.7
River Basin: Connecticut	Volume (m³):	81500
Latitude: 44°52'18" N	Relative depth:	1.8
Longitude: 71°29'22" W	Shore configuration:	1.31
Elevation (ft): 1415	Areal water load (m/yr):	10.16
Shore length (m): 1000	Flushing rate (yr^{-1}) :	5.80
Watershed area (ha): 75.0	P retention coeff.:	0.55
<pre>% watershed ponded: 0.0</pre>	Lake type: n	atural

BIOLOGICAL:	2 February 2000	10 August 1999
DOM. PHYTOPLANKTON (% TOTAL) #1	VERY SPARSE	TINY PENNATE DIATOM 40%
#2	TABELLARIA (100%)	DINOBRYON 40%
#3		RHIZOSOLENIA 10%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		8.77
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 34%	KERATELLA 87%
#2	POLYARTHRA 34%	NAUPLIUS LARVA 9%
#3	MYTILINA 29%	
ROTIFERS/LITER	362	171
MICROCRUSTACEA/LITER	<1	. 22
ZOOPLANKTON ABUNDANCE (#/L)	372	195
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		1.1
BOTTOM DISSOLVED OXYGEN (mg/L)	5.7	6.1
BACTERIA (E. coli, #/100 ml) #1		1
#2		5
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : None

CHEMICAL:	Lake: LIME POND Town: COLUMBIA				
	2 February 2000		10 August 1999		99
DEPTH (m)	1.0	2.0	1.0		3.0
pH (units)	7.7	7.8	7.7		7.6
A.N.C. (Alkalinity)	84.4	85.9	85.9		85.0
NITRATE NITROGEN	0.12	0.16	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.43	0.10			
TOTAL PHOSPHORUS	0.011	0.008	0.015		0.021
CONDUCTIVITY (µmhos/cm)	198.9	199.4	185.3		186.3
APPARENT COLOR (cpu)	19	19	27		28
MAGNESIUM			3.61		
CALCIUM			33.0		
SODIUM			1.8		
POTASSIUM			2.21		
CHLORIDE	4	4	2		2
SULFATE	12	12	5		5
TN : TP	50	33			
CALCITE SATURATION INDEX			1.2		

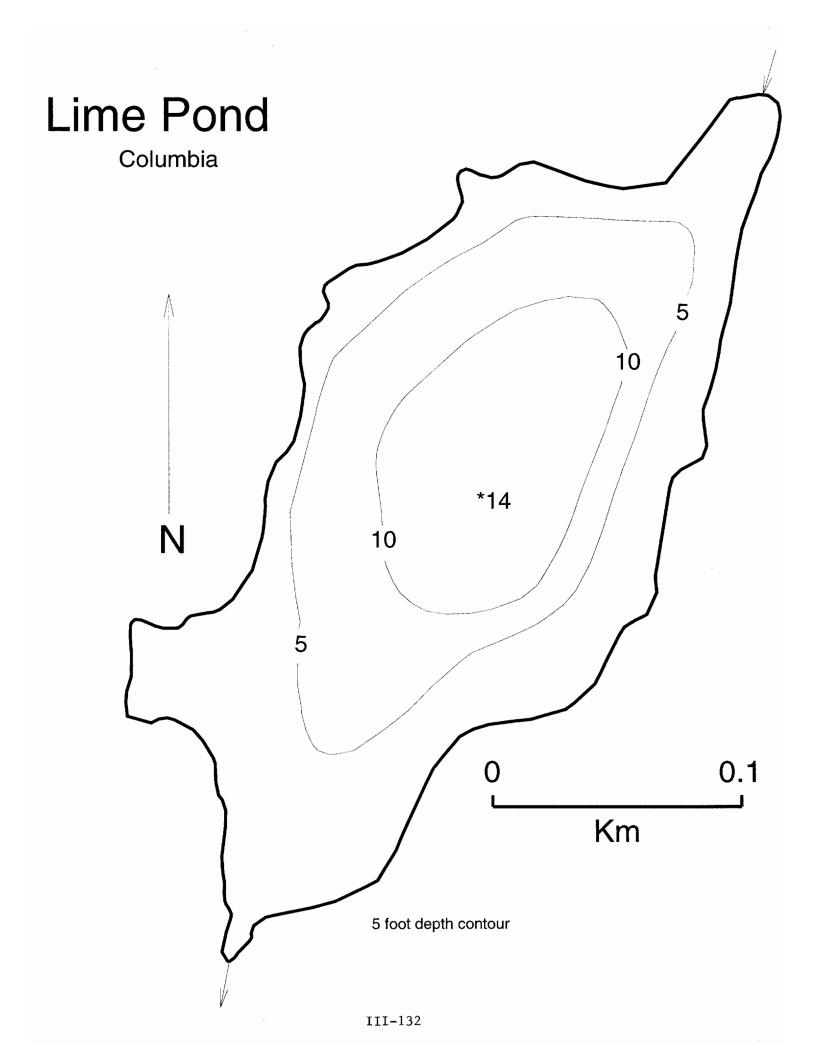
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1999

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	1	2	7	Meso.

COMMENTS:

- 1. Lime Pond was previously surveyed and classified in 1985. There was no change in classification and little change in water quality between the two dates.
- 2. This is one of a very few New Hampshire ponds that lies in a more calcareous setting rather than the typical granitic bedrock. It has the highest natural alkalinity of any pond in the state. It also has the highest natural calcium value of any New Hampshire lake and the conductivity is high for a relatively remote, undeveloped watershed.
- 3. The water had a green cloudy appearance and water clarity was relatively poor, but the algal abundance (chlorophyll) was not abnormally high.



FIELD DATA SHEET

LAKE: LIME POND TOWN: COLUMBIA

DATE: 08/10/1999 WEATHER: MOSTLY CLOUDY & COOL

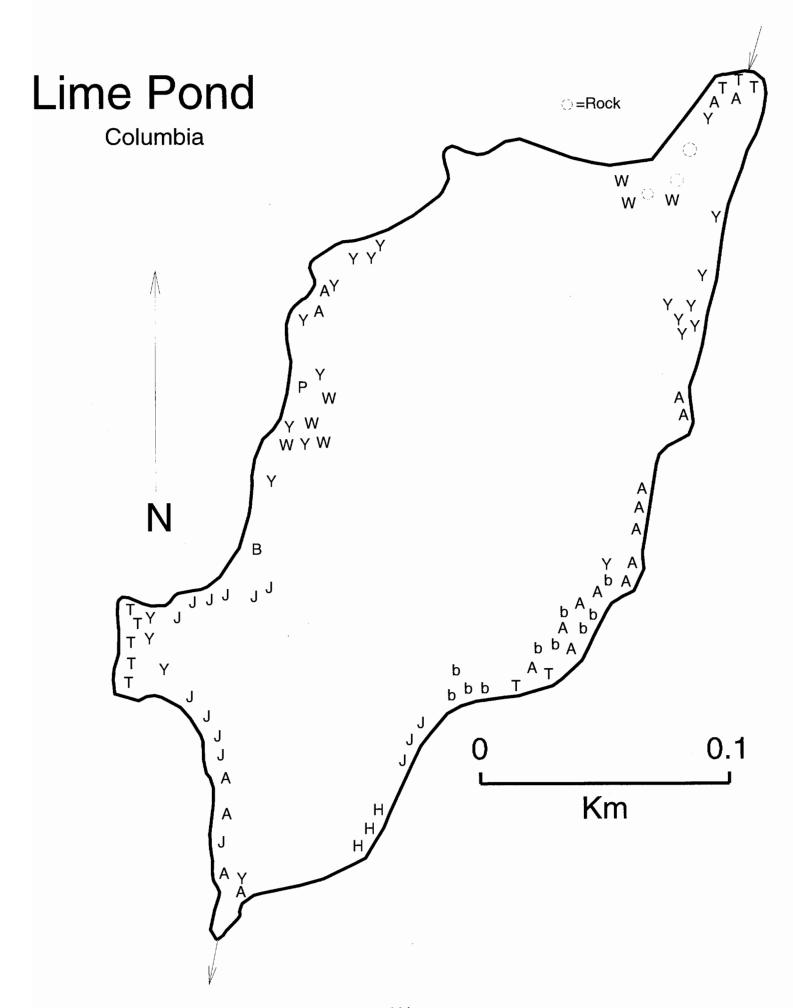
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	20.2	7.3	80 %
1.0	19.2	7.1	76 %
2.0	18.8	6.4	67 %
3.0	18.5	6.2	65 %
3.5	18.4	6.1	64 %
	21-0-11		

SECCHI DISK (m): 1.1 COMMENTS:

BOTTOM DEPTH (m): 4.0

TIME: 1415

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

	LAKE: LIME POND	TOWN: COLUMBIA	DATE:	08/10/1999
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Key	PLANT	ABUNDANCE		
Кеу	GENERIC	COMMON	ABUNDANCE	
Y	Nuphar	Yellow water lily	Scattered	
Т	Typha	Cattail	Sparse	
A	Sagittaria	Arrowhead	Scattered	
W	Potamogeton	Pondweed	Sparse	
P	Pontederia cordata	Pickerelweed	Sparse	
J	Juncus	Rush	Sparse	
Н	Equisetum	Horsetail	Sparse	
b	Scirpus	Bulrush	Sparse	
	X			

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

- 1. Plants were around most of the shoreline but only along the immediate shore; few plants were in water greater than 3 feet in depth.
- 2. Many kingfishers and one osprey were observed.
- 3. Six camps were located along the shore of the pond.